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File Code: 3410 **Date:** December 29, 2000
Route To:

Subject: Douglas-fir Tussock Moth Monitoring Results for Arizona

To: Forest Supervisors: Coconino, Coronado, Prescott, and Tonto National Forests

Douglas-fir tussock moth (dftm), *Orgyia pseudotsugata,* is a native defoliator of major importance in the mixed conifer, Douglas-fir and true fir forests of the interior west. Outbreaks can result in spectacular defoliation, growth retardation, top kill and considerable tree mortality. Additionally, hairs from the egg, larval and pupal stages are irritating to some individuals and may cause asthma symptoms or severe skin rashes as was seen in the Dale Resler Boy Scout Camp on the Lincoln National Forest in New Mexico this past summer. The insects are seldom noticed between outbreaks, but high population levels can be reached very quickly. An early warning detection system was developed to provide 1 to 2 years advance notice of impending outbreaks to land managers. Used widely throughout the western United States, the program has been in place in Arizona since 1992. A system of pheromone traps is placed annually at several locations. Trap placement precedes the emergence of male dftm. The pheromone used is selective for this insect species. Locations were chosen based on historic outbreaks or site susceptibility due to an extensive stand of appropriate host type. Any plot where the trap catch exceeds 40 moths/trap indicates an imminent outbreak. In 2000, trapping systems were located along the Mogollon Rim near Payson, Catalina Mountains, Pinaleño Mountains, Bradshaw Mountains, Sierra Ancha Mountains, and the Pinal Mountains. Trapping was discontinued in the Hualapai Mountains in 2000 due to a lack of catches over the years. The early warning detection trapping in Arizona is coordinated by the Arizona Zone Office in cooperation with the Safford Ranger District of the Coronado National Forest and the Arizona State Land Department. This letter will serve to report the findings of the 2000 trapping season to appropriate land managers.

Survey results from 2000 (Table 1) indicate that the outbreak in the Pinal Mountains near Globe, Arizona is continuing for the second year (refer to 3410 letters, 1/11/99, 1/3/00). If this outbreak follows the usual pattern the insect population peak would have occurred in 2000 and a decline could be expected in 2001. Moth catches on West Peak in the Pinaleños continues to rise but has not reached the 40 moth threshold. Visible defoliation may be noted on West Peak in 2001 if this trend continues. Other trap locations continue to yield below threshold moth counts. There has been a slight increase in the total moth count in 2000 (1010) over 1999 (922).

Table 1. 2000 Tussock Moth Trap Results.

PLOT NAME	PLOT LOCATION	TOTAL MOTHS 1999	AVERAGE MOTHS/ TRAP 1999	TOTAL MOTHS 2000	AVERAGE NUMBER OF MOTHS/TRAP 2000
Baker Butte	Mogollon Rim	2	0.4	4	0.8
Washington Park	Mogollon Rim	11	2.2	55	11
Marshall Gulch	Catalina Mtns.	6	1.2	1	0.2
Lemon Rock	Catalina Mtns.	0	0	0	0
West Peak	Pinaleño Mtns.	137	27.4	160	32
Cunningham	Pinaleño Mtns.	0	0	0	0
Spruce Mountain	Bradshaw Mtns.	0	0	0	0
Potato Patch	Bradshaw Mtns.	0	0	0	0
Workman Creek	Sierra Ancha Mtns.	2	0.4	15	3
Reynolds Creek	Sierra Ancha Mtns.	90	18	21	4.2
Icehouse	Pinal Mtns.	340	68	434	86.8
Lower Pinal	Pinal Mtns.	334	66.8	320*	64

* One of the traps had been removed and was found on the ground, weather impacts could have lowered the moth count in this trap.

If you have any questions or concerns about these data feel free to contact Bobbe Fitzgibbon at 520-556-2072; fax 520-556-2130; email bfitzgibbon@fs.fed.us.

/s/ *John Anhold*

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